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ABSTRACT

This study explored possible relationships between sixth-grade students' perceptions of themselves and their classroom environments and their help-seeking behaviors in mathematics classes. Researchers administered a city-wide survey to sixth-grade Chicago public school students. Half the students answered items regarding their reading/language arts classes and half answered items regarding their math classes. This paper discusses only students who completed the math section. The survey had students report their levels of competence, classroom social support, collaboration and autonomy, the frequency of asking the teacher and other students for help, and their preferred helping strategies. Results indicated that the frequency of asking the teacher for help was influenced by achievement, the presence of collaboration in the classroom, and a student's sense of autonomy and competence. The overall achievement of the school had a direct relationship with amount of help requested of the teacher. The frequency of asking other students for help was influenced by gender, sense of autonomy, and presence of collaboration and social supportiveness in the class. Autonomy and collaboration related to both asking the teacher and asking another student for help. Overall, students preferred receiving instrumental and indirect types of help rather than direct help. (Contains 14 references.) (SM)

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ED 423 221

# Students' Perceptions of Self and Classroom Environment and Their Reported Help Seeking Behaviors

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Abstract

The purpose of this research is to explore possible relationships between sixth grade students' perceptions of themselves and their classroom environments and their help seeking behaviors in their mathematics classes. Students were asked to report their levels of competence, classroom social support, collaboration, and autonomy, the frequency of asking the teacher and another student for help, and their preferred helping strategies. Asking the teacher for help was associated with average school achievement, students' perceived competence, and levels of collaboration and autonomy in the classroom. Asking another student for help was associated with a student's gender and levels of autonomy, collaboration and social supportiveness. Overall students reported preferring indirect types of helping strategies.

Theoretical Framework

Much of the literature thus far hypothesizes that cooperative types of learning environments would "most likely" best facilitate help seeking behaviors (e.g. Newman & Schwager, 1993; Nelson-Le Gall, 1985). Many studies have focused on students' help seeking behaviors in relationship to specific tasks and activity structure (Butler & Neuman, 1995; Nelson-Le Gall, 1987, 1990; Nelson-Le Gall, DeCooke & Jones, 1989; Nelson-Le Gall & Glor-Scheib, 1985; Nelson-Le Gall & Jones, 1990; Nelson-Le Gall, Kratzer, Jones, & DeCooke, 1990; Newman & Schwager, 1995). Students tend to request more instrumental types of help when the activity structure is task-oriented rather than ego-oriented (Butler & Neuman, 1995; Ryan & Pintrich, 1997). When the goal of the activity is explicit, students' help seeking behaviors will adopt accordingly. Explicit task-oriented goals, where learning and mastering the subject is emphasized, will encourage students to utilize help seeking strategies that will help them succeed at and master the task. Explicit ego-oriented goals, where getting a good grade and performance is emphasized will encourage students to more often utilize help seeking strategies that will help them arrive at the correct answer quickly.

It is evident that the structure of an activity highly affects students' help seeking behaviors. It can inhibit or promote help seeking behaviors. How students perceive the act of seeking help is often a function of the type of task structure or goal of the activity. Furthermore, the frequency of seeking help is effected by the goal of the activity structure.

These studies do not reflect differences in help seeking behaviors contingent upon students' overall perceptions of themselves and their classroom environment. The classroom environment and the learning atmosphere can impact students' attitudes about learning which may or may not motivate students to seek help when they are having difficulty. The usefulness of asking questions, how questions are received, and to whom questions are asked may vary according to these perceptions and attitudes and not just in response to a particular type of task or activity.

The purpose of this research is to examine whether or not students' feelings and perceptions about themselves and their classrooms impact the type of help they prefer and the frequency of asking for help from the teacher and other students. A central assumption of this research is students who are intrinsically motivated will not only seek help more frequently but

will more likely seek instrumental and indirect types of helping strategies. Instrumental help (explanations, hints, or questions) allows students to acquire the strategies necessary to increase the likelihood of future success.

In order to execute an act of seeking help when experiencing difficulty an individual must be motivated, determined, and feel supported by her surrounding environment. According to the self-determination theory of Deci and Ryan (1985) students will perform a task when two conditions are met in the classroom, competence and autonomy. Students feel competent when they believe they are capable of completing a task. In order to feel a sense of autonomy, students also need to feel they are in control of their own futures by having opportunities to make their own choices. Students also need to feel connected, rather than isolated, to the social milieu of their classrooms through collaborative relationships (Brophy, 1998). Students' intrinsic motivation and determination is encouraged and promoted when competence, autonomy, and collaboration are fostered. Consequently, these students will tend to seek instrumental and indirect types of help more frequently when they are having difficulty.

Although collaborative activities may be occurring in classrooms what is the quality of those collaborative interactions? Collaborative social interactions that are characterized by a climate of mutual respect reflect a socially supportive classroom environment (Newmann & Wehlage, 1993). Therefore it is also necessary to examine the quality of these collaborative interactions.

Classroom environments where students feel competent, autonomous, socially supported and collaboration is practiced should facilitate students' help seeking behaviors. Students in these types of classrooms will most likely seek help more frequently and request more instrumental and indirect types of help. This research will attempt to move toward providing teachers a model for classroom environments where seeking help is an accepted practice.

Data Collection and Sample

In February, 1997, the Consortium on Chicago School Research (CCSR) administered a city-wide survey to sixth grade Chicago Public School students. All students were asked to answer questions pertaining to overall school climate. In addition, half of the students were asked to answer items regarding their reading/language arts classes and half were asked to answer items regarding their math classes. The maximum number of items for each subject was

154. Teachers were instructed by the Chicago Board of Education to allow one class period (approximately 40 minutes) for students to complete the survey

For the purposes of this research only students who responded to the mathematics section of the survey were examined. Mathematics learning and instruction generally occurs in school whereas reading learning and instruction varies more in and out of the school context. Utilizing the mathematics section allows for more control and somewhat less noisy data. Additionally, problem solving situations are more likely to occur with greater frequency in mathematics. The total sample consists of 10,824 respondents (boys=5174, girls=5302, missing=348). A total of 371 elementary schools participated (see Appendix 1 for school demographic information).

*Selection Bias*-The data for this research are extracted from items contained at the end of the survey. Many would agree that a 154 item survey for sixth grade students to complete in a 40 minute class period is impractical. Therefore, it is likely that students who were able to complete the survey were better readers or higher achieving. At this juncture in time ITBS scores for each individual have not been included in the analysis but this is a necessary "next step" in order to determine the potential homogeneity of this sample. At this time only average school achievement is available (83% of these schools are scoring at or below national norms). It is important to keep this potential bias in mind concerning the discussion of results below.

Yet another concern regarding this data is the issue of using young students as reporters of information. A preliminary Rasch analysis yielded a person separation <1 for items about general attitudes demonstrating little variation among respondents. Respondents mainly fell in the "agree" category. This result often reminds me of a child who comes home from school and is asked by the parent "how was school today?" and no matter what the child always answers "okay" or "fine". Items, however, pertaining to more concrete situations yielded better discrimination among responses and hence, greater variation.

Scales and Survey Items

The survey was not piloted prior to administration although some measures and items were utilized on previous student surveys produced by CCSR and other reputed research institutes. Items that seemed to best reflect students' feelings of competence, autonomy, collaboration, and quality of social support were selected. Students responded to these items on a four point Likert scale, ranging from 1=strongly disagree to 4=strongly agree. In addition,

items that asked students how frequently they asked their teacher or another student for help (4 point scale, ranging from 1=never to 4=all of the time), and the type of help they preferred (1=an explanation, 2=the correct answer, 3=where the information was located in the book), were included in the analysis (see Appendix 2 for a detailed list of items). It is important to note that items for the scale measuring social support are negatively worded and in the discussion of students' preferred strategies is referred to as "friction."

*Principal Components Analysis*-All items selected for this research were factor analyzed using a principal components analysis with Varimax rotation (see Table 1). The analysis extracted five components. Fifty percent of the items loaded on more than factor, although coefficients were fairly dissimilar, indicating that these items may have more than one underlying construct. Three items; *comftss, nevunder, tethindu*, were subsequently eliminated from the analysis because they did not seem to cohere with any component. Component 5 was also excluded from the analysis due to the small loadings of those items. Included in the analysis for Component 1 *(COMPETENCE)* were four items representing feelings of competence; *hrdstwk, goodjob, mastskil,* and *betterwk.* Component 2 *(SOCSUPPORT)* represented items depicting the quality of social support in the classroom; *ssnocare, sslookth, ssmean, ssnoalon,* and *ssputdow.* Component 3 *(COLLABORATION)* contained three items pertaining to collaboration; *sswktoge, sshelpea,* and *ssrespea.* Component 4 *(AUTONOMY)* included three items representing students' reports of the level of autonomy in the classroom; *choprobs, sshavsay,* and *tsdecrul.* The item, *ssrespea,* loaded on component 2 *(SOCSUPPORT)* and component 3 *(COLLABORATION).* The loading, however, for *COLLABORATION* was significantly higher and in the positive direction and was therefore retained in the *COLLABORATION* scale.

*Scale Reliability Analyses*-Cronbach-alpha scale reliability analyses were conducted on the four components (see Tables 2a-d). The *COMPETENCE* and *AUTONOMY* scales yielded modest reliabilities, 4 items, $\alpha$=.6639 and 3 items, $\alpha$=.6488 respectively. *SOCSUPPORT* and *COLLABORATION* yielded higher reliabilities, 5 items, $\alpha$=.7036 and 3 items, $\alpha$=.7143 respectively.

Results

*Correlations*-A Pearson product-moment correlation matrix was computed in order to examine the relationships between the scales, students' reported frequencies of asking the teacher and other students for help, gender, and average school achievement (see Table 3). Due to the statistical power of this sample, the correlation coefficients are small yet statistically significant mainly at $p<.001$.

Average achievement for a school was significantly correlated with the frequency of students asking the teacher for help but not asking another student for help ($r=-.09$, $p<.01$). Figure 1, however, does reflect a trend between *askteach* and *askstud* with respect to *ACH96*. The lower the average school achievement score the more likely students ask the teacher for help and the less likely they ask other students for help. Students increasingly ask other students for help as average school achievement increases. These trends remained linear with the exception of schools that fell in the highest category of average school achievement where the direction changes. These students were more likely to ask the teacher for help and less likely to ask another student for help. Further analysis is required to examine the difference in this category.

Gender was significantly correlated with the frequency of asking another student for help ($r=.029$, $p<.01$) but not with asking the teacher for help. Boys and girls were equally as likely to ask the teacher for help but girls were more likely to report asking other students for help (see Figure 2).

*Regression Analyses*-Significant correlations generated by the correlation matrix were used as the bases for two regression models. Variables included in both analyses were entered. The first model regressed *ACH96, AUTONOMY, COLLABORATION,* and *COMPETENCE* on the dependent variable *askteach*. The model was significant at $p<.001$ with $R^2=.075$ (see Table 4a). Figure 3 shows that the more competent, collaborative, and autonomous students feel the more likely they are to ask the teacher for help.

The second model regressed *AUTONOMY, COLLABORATION, SOCSUPPORT,* and *GENDER* on the dependent variable *askstud*. The model was significant at $p<.001$ with $R^2=.028$ (see Table 4b). Figure 4 demonstrates parallel results for *AUTONOMY* and *COLLABORATION* as the first regression model. The more collaborative and autonomous students feel the more likely they are to ask another student for help. Items for the *SOCSUPPORT* scale are all

negatively phrased. The more students agreed that their classrooms lacked positive social support from other students the less likely they reported asking another student for help.

Overall, the data show that students more frequently ask the teacher for help than their fellow classmates (see Table 5). Even though students ask the teacher for help more frequently, the amount of help seeking is still rather low. Students are reporting seeking help between "once in awhile" and "most of the time" when they are having difficulty.

*Preferred Strategies*-In addition to asking students how often they ask the teacher or another student for help, students were also asked what type of help they would prefer. Students chose either an explanation to solve the problem, the correct answer to solve the problem, or the location of the information in the book to solve the problem. The first and third strategies are more indirect and instrumental types of help. The second strategy is a direct form of help. The explanation strategy and the location of the information were chosen by approximately 73% and 16% of the sample respectively. Eleven percent of the population chose the correct answer as the preferred helping strategy. Girls tended to prefer the explanation (55%) somewhat more than boys (45%). Nearly twice as many boys (64%) preferred receiving the correct answer than girls (36%). Boys chose the location in the book (53%) somewhat more than girls (47%). (Table 6) Overall, this sample of students prefer the indirect forms of help. However, a preference for a particular type of helping strategy may not reflect students' actual requests for help.

The four scales, *AUTONOMY, COLLABORATION, COMPETENCE,* and *FRICTION* were examined in relation to students' preferred helping strategy (see Table 7 for means and standard deviations). Scale mean differences were very small across preferred strategies with the exception of *COMPETENCE.* Students who chose the indirect strategies, explanation and location of information, tended to report higher levels of competence than students who chose receiving the correct answer as their preferred strategy.

Conclusion

The frequency of asking the teacher for help in mathematics is influenced by achievement, the presence of collaboration in the classroom, and a student's sense of autonomy and competence. The overall achievement of the school seems to have a direct relationship with amount of help that is requested of the teacher. The lower the school achievement the more

students reported asking the teacher for assistance. Possibly the more competent students feel the more sure they are asking a "good" question.

The frequency of asking another student for help in mathematics is influenced by gender of the student, a student's sense of autonomy, and the presence of collaboration and social supportiveness in the classroom. Girls were more likely to report seeking help from another student than boys. This finding may be explained by an earlier study conducted by Newman and Schwager (1993) where girls were shown to believe more strongly that a teacher or parent were more likely to think they were "dumb" if they asked questions regarding math. In addition, items reflecting social support pertained to students' supportiveness of each other. It is logical that this factor is related to asking another student for help and unrelated to asking the teacher for help.

Autonomy and collaboration are associated with both asking the teacher and another student for help. An environment where students' choices and building relationships with others is valued should diminish the likelihood of negative social reactions when students ask for help. Although students in this sample generally reported low levels of autonomy in their classrooms, the data reflect a trend between increased levels of autonomy and the frequency of asking for help. Overall, however, these students are more likely to seek help from the teacher rather than another student.

Students were asked to choose the type of helping strategy they preferred when having difficulty with math. Only a small portion of the sample reported preferring the direct helping strategy. Students overall seem to feel a preference for receiving instrumental and indirect types of help. Receipt of indirect help strategies may make students feel more competent and capable to be successful in the future. Although students demonstrate preferring indirect help, it is not possible from these data to determine if in fact they are receiving indirect helping strategies.

Directions for Future Research

A sample of this magnitude yields strong statistical power. A smaller random sample should be selected to see if the correlations discussed above can be retained.

These preliminary analyses provide directions for further in depth research. The current data only reflect relationships between help seeking and average school achievement. Students' individual achievement scores need to be included in the analysis in order to understand the strength of this relationship.

Seventy three percent of the students in this sample chose an explanation to solve a problem as their preferred helping strategy. A closer examination of students who chose the correct answer or the location of the information as helping strategies may be more revealing. In addition, why do boys more strongly prefer receiving the correct answer than girls?

Lastly, the sample can be separated by students who had the same teacher all year and students who did not. This distinction is important when considering effects of classroom environment.

References

Brophy, J. (1998). Motivating students to learn. Boston, MA: McGraw Hill.

Butler, R. & Neuman, O. (1995). Effects of task and ego achievement goals on help seeking behaviors and attitudes. Journal of Educational Psychology, 87, 2, 261-271.

Deci, E., & Ryan, R. (1985). Intrinsic motivation and self-determination in human behavior. New York: Plenum.

Nelson-Le Gall, S. (1985). Help seeking behavior in learning. Review of Research in Education, 12, 55-90.

Nelson-Le Gall, S. (1987). Necessary and unnecessary help seeking in children. Journal of Genetic Psychology, 148, 53-62.

Nelson-Le Gall, S. (1990). Academic achievement orientation and help seeking behavior in preadolescent girls. Journal of Early Adolescence, 10, 176-190.

Nelson-Le Gall, S., DeCooke, P. A., & Jones, E. (1989). Children's self-perceptions of competence and help seeking. Journal of Genetic Psychology, 150, 457-459.

Nelson-Le Gall, S. & Glor-Scheib, S. (1985). Help seeking in elementary classrooms: An observational study. Contemporary Educational Psychology, 11, 187-193.

Nelson-Le Gall, S. & Jones, E. Cognitive-motivational influences on the task related help seeking behavior of black children. Paper presented at the Biennial Meeting of the Society for Research in Child Development, Kansas City, 1989.

Nelson-Le Gall, S., Kratzer, L., Jones, E., & DeCooke, P. (1990). Children's self-assessment of performance and task related help seeking. Journal of Experimental Child Psychology, 49, 245-63.

Newman, R. S. & Schwager, M. T. (1993). Students' perceptions of the teacher and classmates in relation to reported help seeking in math class. Elementary School Journal, 94, 3-17.

Newman, R. S., & Schwager, M. T. (1995). Students' help seeking during problem solving: Effects of grade, goal, and prior achievement. American Education Research Journal, 32, 352-76.

Newmann, F. M., & Wehlage, G. G. (1993). Five standards of authentic instruction. Educational Leadership, 7, 50, 8-12.

Ryan, A.M., & Pintrich, P. R. (1997). "Should I ask for help?": The role of motivation and attitudes in adolescents' help seeking in math class. Journal of Educational Psychology, 89, 2, 329-341.

## Appendix 1-School Demographics

Total sample of schools participating is n=371. More than half of these schools comprise students receiving reduced lunch >90%.

Descriptive Statistics for 1996 Average School Achievement (*ACH96*)

| Category | n | Percent |
|---|---|---|
| <15% | 53 | 14% |
| 16-25% | 121 | 33% |
| 26-35% | 75 | 20% |
| 36-50% | 54 | 15% |
| 51-100% | 64 | 17% |

Note. Categories represent the percent of students scoring at or above national norms on the 1996 Iowa Test of Basic Skills.

Descriptive Statistics for 1996 Student Racial Composition of School (*STRACE96*)

| Category | n | Percent |
|---|---|---|
| >85% African-American | 169 | 46% |
| >85% Hispanic | 35 | 9% |
| >85% Minority | 53 | 14% |
| Racially Mixed | 45 | 12% |
| Integrated | 65 | 18% |

Note. Categories are based on the Chicago Public School desegregation criteria. Racially mixed schools are defined as 15-30% White. Integrated schools are defined as more than 30% White.

Appendix 2-Items from the CCSR 1997 Sixth Grade Student Survey

*COMPETENCE Scale* (4 point scale, strongly disagree=1)

How much do you agree with the following statements about your math class?
1. I can do even the hardest work in this class if I try. (HRDSTWK)
2. If I have enough time, I can do a good job on all my class work. (GOODJOB)
3. I am certain I can master the skills taught in this class. (MASTSKIL)
4. I can do better work than I am doing now. (BETTERWK)

*SOCIAL SUPPORT Scale* (4 point scale, strongly disagree=1)

Most students in this class:
1. Don't really care about each other. (SSNOCARE)
2. Just look out for themselves. (SSLOOKTH)
3. Are mean to each other. (SSMEAN)
4. Don't get along together very well. (SSNOALON)
5. Like to put others down. (SSPUTDOW)

*COLLABORATION Scale* (4 point scale, strongly disagree=1)

Most students in this class:
1. Treat each other with respect. (SSRESPEA)
2. Work together to solve problems. (SSWKTOGE)
3. Help each other learn. (SSHELPEA)

*AUTONOMY Scale* (4 point scale, never=1)

How often do the following things happen in your math class?
1. The teacher and students decide together what the rules will be. (TSDECRUL)
2. Students have a say in deciding what work we do. (SSHAVSAY)
3. You choose your own problems to work on for this class. (CHOPROBS)

*Frequencies of Asking for Help* (4 point scale, never=1)

When you don't understand a math problem, how often do you ask for help from:
1. The teacher? (ASKTEACH)
2. A student? (ASKSTUD)

*Preferred Strategies*

When you have difficulty with a math problem, do you usually want: (Mark one answer)
1. Someone to explain to you how to solve the problem?
2. Someone to tell you the correct answer?
3. Someone to tell you where to find the information in the book?

Table 1. Summary of Principal Component Analysis with Varimax Rotation

| | Component 1 | Component 2 | Component 3 | Component 4 | Component 5 |
|---|---|---|---|---|---|
| HRDSTWK | .722 | | | | -.217 |
| GOODJOB | .696 | | | | |
| MASTSKIL | .676 | | | | -.299 |
| BETTERWK | .595 | | | | |
| COMFTSS | .380 | | .356 | | .274 |
| SSNOCARE | | .721 | | | |
| SSLOOKTH | -.222 | .672 | | | -.202 |
| SSMEAN | | .623 | -.264 | | .295 |
| SSNOALON | | .616 | -.214 | | .289 |
| SSPUTDOW | | .606 | -.338 | | .217 |
| SSWKTOGE | | | .771 | | |
| SSHELPEA | | | .763 | | |
| SSRESPEA | | -.235 | .722 | | |
| CHOPROBS | | | | .764 | |
| SSHAVSAY | | | | .762 | |
| TSDECRUL | | | | .723 | |
| NEVUNDER | | | | | .740 |
| TETHINDU | -.266 | | | .263 | .403 |

Note. Rotation converged in 9 iterations.

Table 2a. Summary of *COMPETENCE* Scale Reliability ($\alpha$=.66)

| Item | Mean | SD |
|---|---|---|
| HRDSTWK | 3.16 | .78 |
| GOODJOB | 3.26 | .75 |
| MASTSKIL | 2.98 | .84 |
| BETTERWK | 3.25 | .80 |

Table 2b. Summary of *SOCIAL SUPPORT* Scale Reliability ($\alpha$=.70)

| Item | Mean | SD |
|---|---|---|
| SSNOCARE | 2.15 | .68 |
| SSLOOKTH | 2.23 | .65 |
| SSMEAN | 2.50 | .90 |
| SSNOALON | 2.52 | .91 |
| SSPUTDOW | 2.66 | .93 |

Table 2c. Summary of *COLLABORATION* Scale Reliability ($\alpha$=.71)

| Item | Mean | SD |
|---|---|---|
| SSRESPEA | 2.51 | .91 |
| SSWKTOGE | 2.72 | .92 |
| SSHELPEA | 2.71 | .86 |

Table 2d. Summary of *AUTONOMY* Scale Reliability ($\alpha$=.65)

| Item | Mean | SD |
|---|---|---|
| TSDECRUL | 1.06 | 1.06 |
| SSHAVSAY | 1.77 | .90 |
| CHOPROBS | 1.53 | .88 |

Table 3. Summary of Pearson Product-Moment Correlations

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| ACH96 | - | | | | | | | |
| ASKSTUD | .013 | - | | | | | | |
| ASKTEACH | -.09** | -.017 | - | | | | | |
| AUTONOMY | -.15** | .089** | .160** | - | | | | |
| COLLAB | .034** | . 149** | .127** | .179** | - | | | |
| SOCSUPPORT | -.139** | -.067 | -.017 | -.021* | -.345** | - | | |
| GENDER | -.008** | .029** | .007 | -.085** | .021* | .018 | - | |
| COMPETEN | .008 | -.003 | .194** | - .015 | .117** | .019 | .079** | - |

** Correlation is significant at $p < .001$.
* Correlation is significant at $p < .05$.

Table 4a. Summary of Regression Analysis for Predicting the Frequency of Asking the Teacher for Help (*ASKTEACH).*

| Variable | B | SE B | β |
|---|---|---|---|
| ACH96 | -.0055 | .008 | -.074** |
| AUTONOMY | .175 | .013 | .137** |
| COLLABORATION | .108 | .013 | .083** |
| COMPETENCE | .305 | .016 | .187** |

Note. N=9199. $R^2$=.075. **p<.001.

Table 4b. Summary of Regression Analysis for Predicting the Frequency of Asking a Student for Help (*ASKSTUD).*

| Variable | B | SE B | β |
|---|---|---|---|
| AUTONOMY | -.008 | .012 | .068** |
| COLLABORATION | .153 | .013 | .128** |
| SOCIAL SUPPORT | -.0033 | .017 | -.022* |
| GENDER | -.0055 | .018 | .032*** |

Note. N=8920. $R^2$=.028. *p<.05. **p<.001. ***p<.005.

Table 5. Descriptive Statistics for Frequencies of Asking the Teacher (*ASKTEACH*) and Student (*ASKSTUD*) for Help.

| Variable | N | Mean | SD |
|---|---|---|---|
| ASKTEACH | 9394 | 2.74 | .94 |
| ASKSTUD | 9208 | 2.32 | .86 |

Table 6. Students' Preferences of Helping Strategies.

| Strategy | N | % of Total N | % of Boys | % of Girls |
|---|---|---|---|---|
| Explanation | 5858 | 73% | 45% | 55% |
| Correct Answer | 919 | 11% | 64% | 36% |
| Information Location | 1251 | 16% | 53% | 47% |

Table 7. Descriptive Statistics of Scales by Students' Preferred Helping Strategy.

| | Explanation | | | Correct Answer | | | Information Location | | |
|---|---|---|---|---|---|---|---|---|---|
| Scale | N | Mean | SD | N | Mean | SD | N | Mean | SD |
| COMPETEN | 5838 | 3.21 | .52 | 913 | 2.91 | .68 | 1229 | 3.17 | .57 |
| FRICTION | 5785 | 2.40 | .57 | 897 | 2.50 | .54 | 1216 | 2.40 | .56 |
| COLLAB | 5762 | 2.67 | .70 | 889 | 2.53 | .78 | 1213 | 2.66 | .74 |
| AUTONOMY | 5896 | 1.68 | .70 | 921 | 1.90 | .82 | 1248 | 1.83 | .77 |

Indirect Strategy

↑ COMPETENCE

↑ COLLABORATION

↓ FRICTION

↓ AUTONOMY

Direct Strategy

↓ COMPETENCE

↓ COLLABORATION

↑ FRICTION

↑ AUTONOMY

Figure 1. Mean Frequencies for Asking the Teacher/Student for Help by 1996 Average School Achievement

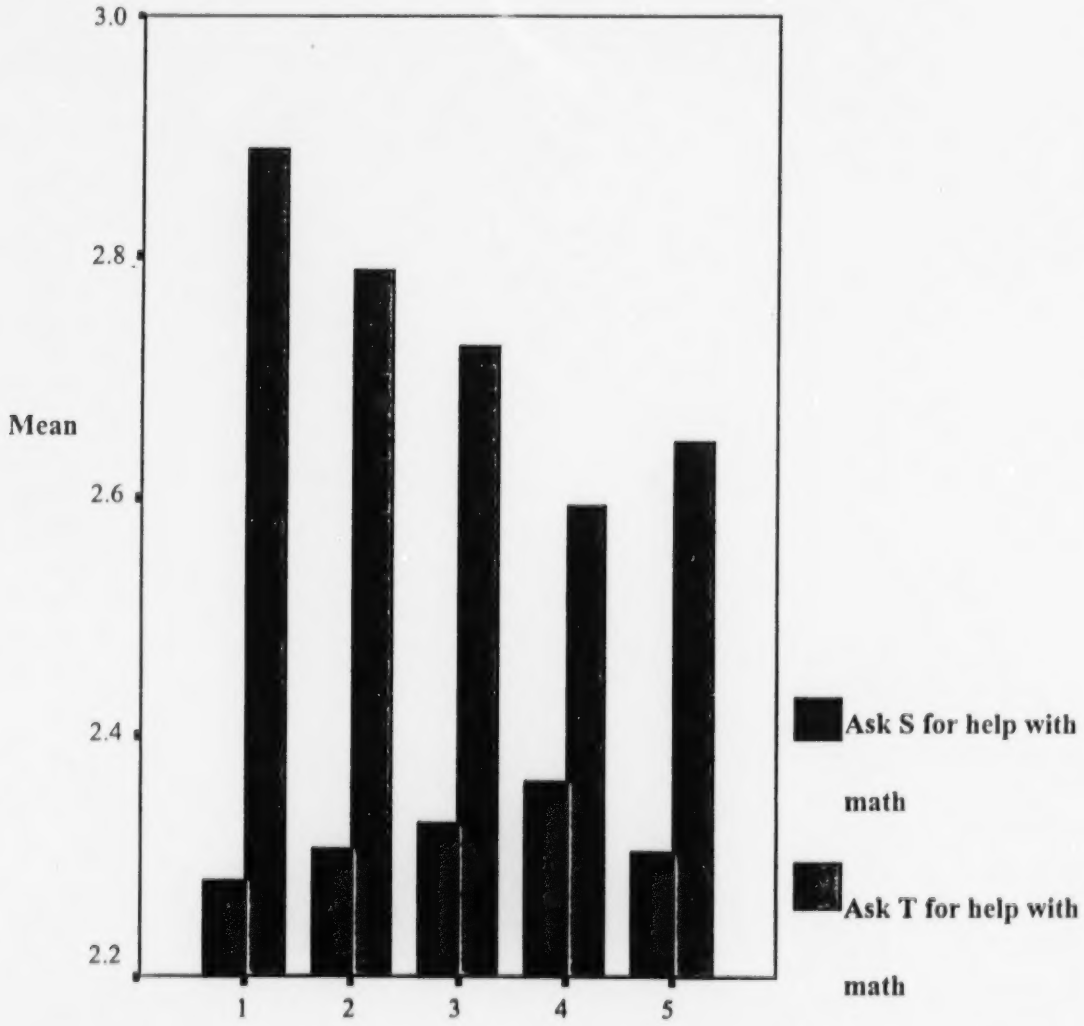

Figure 2. Mean Frequencies for Asking the Teacher/Student for Help by Gender

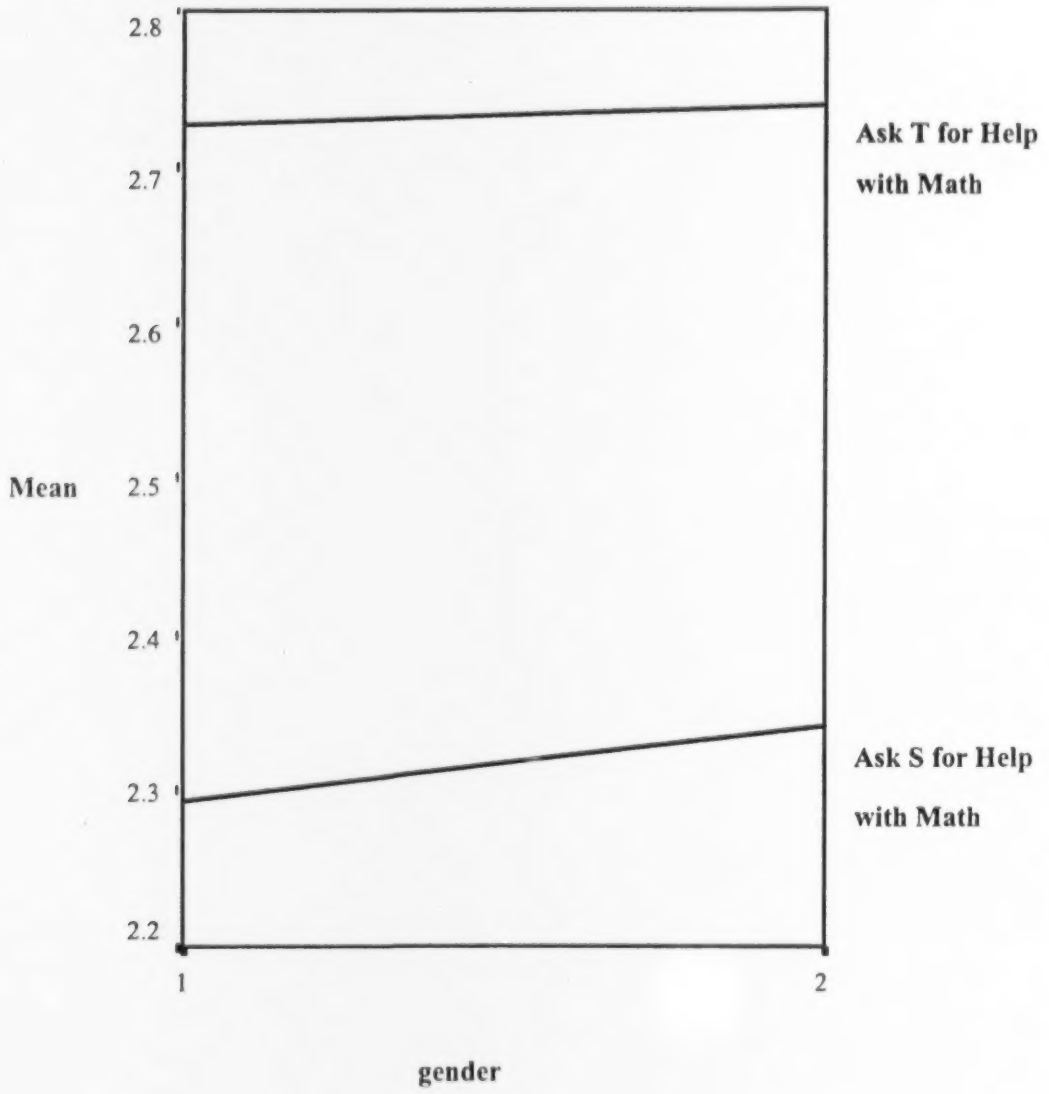

Figure 3. Mean Frequencies for Asking the Teacher for Help by COMPETENCE, COLLABORATION, & AUTONOMY

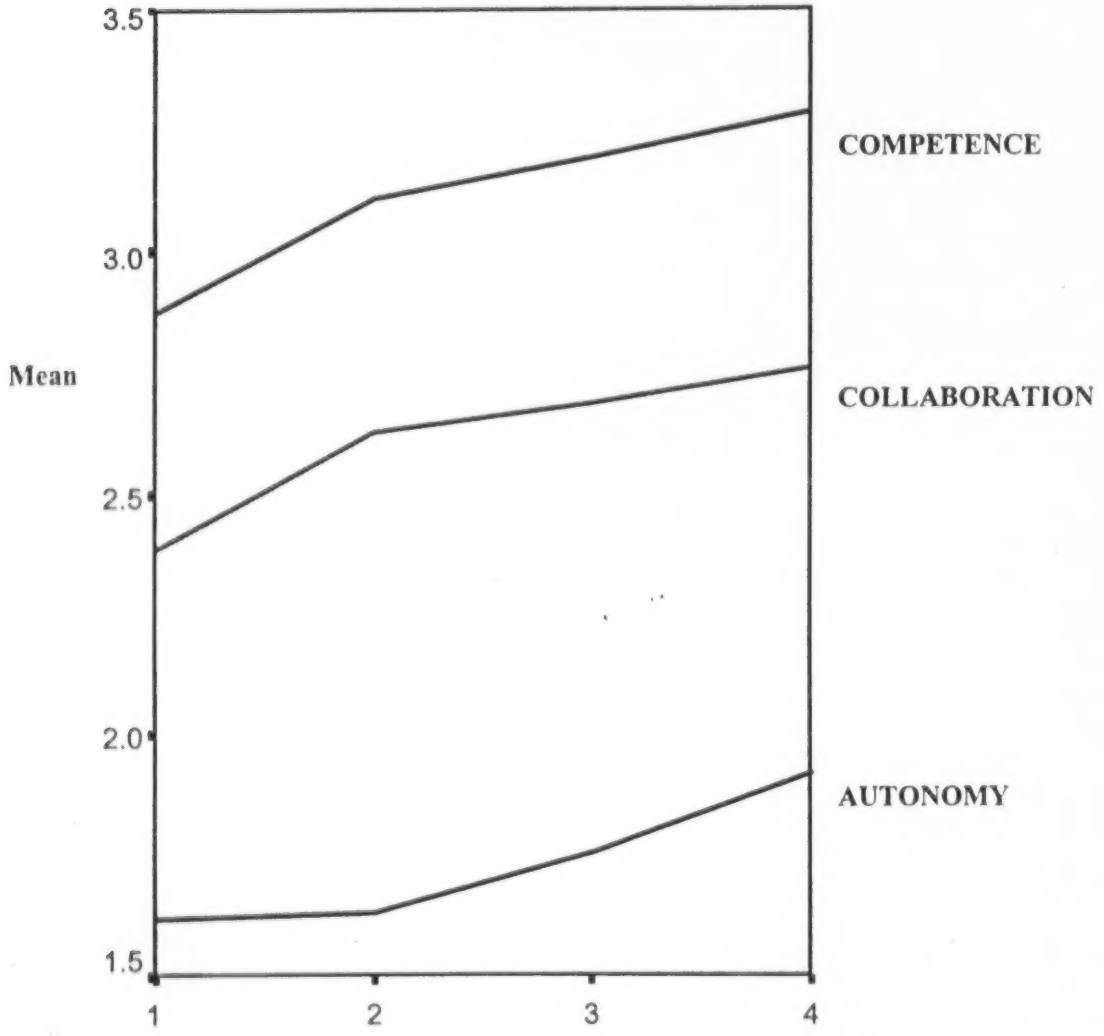

Figure 4. Mean Frequencies for Asking a Student for Help by SOCIAL SUPPORT, COLLABORATION, & AUTONOMY